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May 11, 2005

MS Amendment Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Re:

U.S. Patent Application No.: 10/516,567

For: IMPROVEMENTS IN OR RELATING TO THE MONITORING OF TWO-

PHASE FLUID FLOW

Inventors: Peter J. Unsworth, et al.

Filed: December 1, 2004 Our Ref. No.: BKT-004US

Dear Sir:

I enclose herewith for filing in the above-identified application the following:

- 1. Information Disclosure Statement;
- 2. PTO Form SB/08;
- 3. Copies of selected references cited in PTO Form SB/08 (C1-C4);
- 4. A Return Postcard.

No additional costs are believed to be due in connection with the filing of this Information Disclosure Statement. However, please charge any necessary fees in connection with the enclosed statement to our Deposit Order Account No. 12-0080. For this purpose, a duplicate of this sheet is attached.

I hereby certify that this correspondence is deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on:

May 11, 2005

Date

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Respectfully submitted,
LAHIVE & COCKFIELD, LLP

John D. Lanza, Esq. Registration No. 40,060

Attorney for Applicants

In re the application of: Peter J. Unsworth, et al.

Serial No.: 10/516,567

Filed: December 1, 2004

For: IMPROVEMENTS IN OR RELATING TO THE MONITORING OF TWO-PHASE FLUID FLOW

Attorney Docket No.: BKT-004US

MS Amendment Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Group Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

Certificate of First Class Mailing (37 CFR §1.8(a))

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May 11, 2005

Date of Signature and of Mail Deposit

By:

John D. Lanza, Esq. Registration No. 40,060

Attorney for Applicants

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Applicants and their Attorney are aware of the following publications and information, listed on the attached PTO Form SB/08, and in accordance with 37 CFR §1.97 hereby submit these publications for the Examiner's consideration. These references were cited in an International Search Report dated January 5, 2004 during the prosecution of PCT/GB 03/02376 which corresponds to the above referenced application. A copy of the report is enclosed. A copy of the cited U.S. patent (Reference ID No. A1) is not enclosed with this statement. Copies of non-patent literature (Reference ID Nos. C1-C4) are enclosed in accordance with 37 CFR 1.98.

Serial Number: 10/516,5

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Filing Date:

cember 1, 2004

This statement is not to be interpreted as a representation that the cited publications are

material, that an exhaustive search has been conducted, or that no other relevant information

exists. Nor shall the citation of any publication herein be construed per se as a representation

that such publication is prior art. Moreover, Applicants understand that the Examiner will

make an independent evaluation of the cited publications.

Under 37 CFR § 1.97(b)(3), no additional costs are believed to be due in connection

with the filing of this disclosure. If, however, a first Office Action on the merits issues in this

application bearing a mailing date prior to the date of this Information Disclosure Statement,

please charge the appropriate fee as required under 37 CFR §1.17(p) to our Deposit Order

Account No. 12-0080.

Date: May 11, 2005

Respectfully submitted,

LAHIVE & COCKFIELD, LLP

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JDL/knr **Enclosures**

PTO/SB/08a/b (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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|----------------------------------------------------------|-------------------|------|----------|------------------------|-------------------|--|
| | | | | Application Number | 10/516,567 | |
| 11 | NFORMATION | I DI | SCLOSURE | Filing Date | December 1, 2004 | |
| STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | First Named Inventor | Peter J. Unsworth | |
| | | | | Art Unit | Not Yet Assigned | |
| | | | | Examiner Name | Not Yet Assigned | |
| Sheet | 1 | of | 1 | Attorney Docket Number | BKT-004US | |

| U.S. PATENT DOCUMENTS | | | | | | |
|-----------------------|------|-------------------------------------------|--------------------------------|---------------------|------------------------------|-------------------------------------------------|
| Examiner Initials* | Cite | Document Number Pu | Publication Date MM-DD-YYYY | Name of Patentee or | Pages, Columns, Lines, Where | |
| | No.1 | Number-Kind Code ² (if known) | | MM-DD-YYYY | Applicant of Cited Document | Relevant Passages or Relevant Figures Appear |
| | A1 | 4,876,897 | 10-31-1989 | DeCarlo, et al. | | |

| FOREIGN PATENT DOCUMENTS | | | | | | | |
|--------------------------|--------------|------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------|--|--|
| Examiner Initials* | Cite No.1 | Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | | |
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| NON PATENT LITERATURE DOCUMENTS | | | | | | |
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| Examiner Initials | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² | | | |
| | C1 | Foussat, A., et al. "Vertical Liquid-Liquid and Liquid-Gas Two-Phase Flow Measurements with a Vortex Flow Meter." Measuring Techniques in Gas-Liquid Two-Phase Flows, Symposium, 1984, pp. 651-676. | | | | |
| | C2 | Khan, H., et al. "Statistical Characterization of Air Water Bubbly Flow Using Differential Pressure Drop Measurements." Proceedings of the Fluids Engineering Conference, 20-24 June, 1993, pp. 137-149. | | | | |
| | C3 | Mi, Y. et al. "Flow Regime Identification Methodology with Neural Networks and Two-Phase Flow Models." Nuclear Engineering and Design, February 2001, 204(1-3):87-100. | | | | |
| | C4 | Pusayatanont, M., et al. "Two-Phase Flow Measurement Based on the Analysis of the Sensor Signal from a Conventional Vortex Flowmeter." Proceedings 11 th International Conference on Flow Measurement (Flomeko, 2003), 12-14 May, 2003, Paper 128, pp. 1-8. | | | | |

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